TO: Principal Xavier

FROM: Mr. Redmond

RE: New 10th Grade Mathematics Project

As part of the current 10th grade mathematics standards, students need to demonstrate mastery of the concept of recursion (sequences and series). The problem-solving skills required to determine the algebra behind a repeating sequence are useful in solving problems in the workplace and in upper-level math, science, and engineering courses. To assist students in improving these skills, I propose adding a new project to the sequences and series unit of my 10th grade GPS Geometry class.

On this 1.5-week long project, students in teams of two will look for recursion around the school during the school day. For example, they might identify the number of bricks in the first three rows of the stairway, and they should notice the amount of bricks in the next three rows is fewer, and that the amount of bricks decreases by the same amount with each step. They will develop mathematics problems that explain the recursion found in the school building. Then they will film themselves explaining the recursion (using the video cameras on their phones, the flip phones from the media center, or the iPods from the media center). Finally, they will present their video lesson to the class, allowing the class to work their problems before they reveal the solution. My goal in this task is to improve my students’ skills in sequences and series, and also to provide them with an opportunity to learn how to use a video camera to produce valuable work.

I will provide the students with a map of the school and they will be restricted to a highlighted area near my classroom (indoors and outdoors). They will use the math computer lab to edit their presentations. Their presentations will be assessed using a rubric that I will provide to the students when I assign the project. At your convenience, please contact me so we might discuss my proposed project and its implementation.